



*Theatrical tableau with life size figures depicting Saratoga's Spa Town in the 19th century.*

theatre shows, exhibitions and multi-media events, I was determined that the Audio should be as exciting as the Visual. The original concept was to use an eight-track tape machine running in sync with the film dedicating three tracks for screen loudspeakers (left,centre,right), three tracks for surround loudspeakers (auditorium left, right and rear), one track for bass enhancements of hooves, etc., and the remaining track for synchronising time code. This is, in effect, what we ended up with but somewhere along the way I persuaded my co-producer and director that, to drive home that "you are there" feeling of RACE AMERICA, we should incorporate "Ambisonic" sound.

In the extremely hectic weeks of location shooting we were not able to record with soundfield microphones, so the "Ambisonic" spatial effects had to be created in the studio. This was, perhaps, yet another example of trying to do everything the hard way. For, having achieved a 24-track master tape with all the music and effects laid down in sync., the "Ambisonic" spatial mix-down to 8-track actually took well over 100 hours (!) during which period the director was at no time able to hear or gauge what the final result would be.

As a sound designer I found this very frustrating, and as a producer I was in a constant state of panic as the studio costs relentlessly soared to more than five times the budget. But, at the end of the day, what matters is what the audience (and, of course, the client!) hear and how they react.

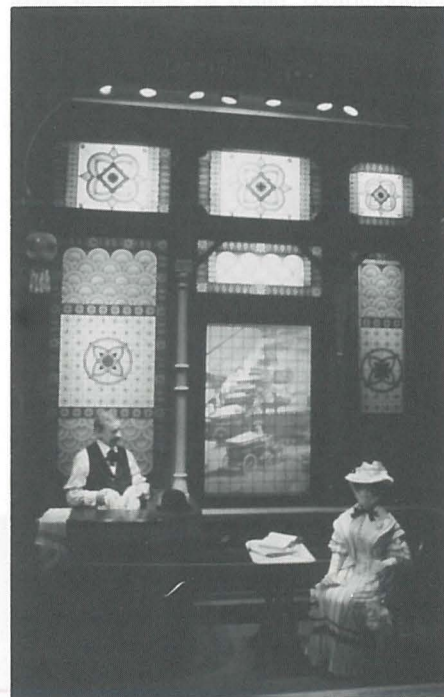
With the Tascam tape deck, DBX noise reduction, Yamaha equalisers, and seven BGW 200W per channel power amplifiers driving eleven Electrovoice full range loudspeaker systems and two sub-woofers, the

sound quality *had* to be superb. And it is true to say that wherever you stand in the room you will perceive a different perspective but one which is perfectly valid and, moreover, without any loudspeaker source being apparent.

#### Lighting Effects

In order to make life a little more complicated for ourselves, we decided to add some live lighting effects to the screening of our film; so the computer which is part of the system which synchronises the film and the tape and performs various other control functions, also operates a dimming system.

Each presentation starts with a two minute pre-announcement during which time the film and tape get themselves into frame-lock; then the interactive video consoles in the Hall receive a warning before being muted for the duration of the film; as the projected logo on the screen and houselights begin to fade, motorized blinds are dramatically lowered in front of the high level glass-fronted cases containing a colourful display of jockeys' silks (this is to prevent unwanted reflections from the screen). During the ensuing darkness the sound of an enormous



*Another tableau incorporates an audio visual display set into a stained glass window employing 80 archive photographs.*

horse van travels through the auditorium and comes to a halt at the screen. This sound is accompanied by the sweep of headlights from a theatrical spotlight with a "Pancan" head housing a motorized mirror.

As soon as the vehicle has stopped we hear the sound of bolts being drawn and, as from inside the van, the tailgate opens in the middle of the screen and the silhouette of a horse walks into the picture. This relatively small central image then cuts dramatically

to a forty foot wide shot of horses galloping towards the camera . . . and the film begins.

Later, during scenes of early morning stables and lush Kentucky grasslands, theatrical spotlights with colours and gobos are used on the audience and around the room to enhance the atmosphere and complement the images on the screen.

#### THE TOTE BOARD

A very prominent feature at the centre of the museum is the paramutuel board; better known in the UK as the tote board. This is a working model of the real thing. It was constructed by Electrosonic Limited in London and transported by air in six sections for assembly on site. Ivor Heal, the British designer for the museum project, conceived the layout of the front panel which called for a quantity of 192 digits, each consisting of a 6 x 4 matrix of 24 lamps; hence, some 9,216 separate circuits had to be wired and programmed.

Having obtained the computer print-out of two actual races from the Paramutuel room at Aqueduct race track in New York, I was able to devise a script. We opted for two separate three minute sequences each building up to and including a simulated race. Thus, via handheld earphones, the visitor can see and hear how this complicated giant calculator works; how the odds are constantly changing before every race as the bets are placed on each horse; and how the pool totals, from which the final payouts are calculated, are similarly updated; how during the race the order of the first four horses and the timings of the front runner are displayed for the quarter mile, half, three quarters, mile, and finish; and then how the pay-outs for Win, Place and Show bets are displayed for the first three horses; and finally, the "Official" sign is switched on and, in a real situation, the lucky ones would go and collect their winnings.

#### DIGITAL SOUND STORES

The two three-minute commentaries for the tote board are recorded on digital sound stores (no moving parts and, hopefully, no maintenance) which run in sync with the computer which drives the tote board display. Another sound store, dedicated to six minutes of general atmosphere emanating from ceiling loudspeakers in that area, is so arranged that when the tote board race sequence starts the crowd sound builds to match the commentary.

#### Sound In The Museum

Other recordings reproduced from sound stores include an exciting atmosphere track for a full-sized starting gate, the daytime/night-time music for the hotel tableau, various sound effects for a stable and a paddock, plus the voices of four notable trainers and four famous jockeys, heard via a series of handheld earphones, talking about their craft.